

# THE POTENTIAL USEFULNESS OF THE MODIFIED KATO THICK SMEAR TECHNIQUE IN THE DETECTION OF INTESTINAL SARCOCYSTOSIS DURING FIELD SURVEYS

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**Abstract.** A total of 479 stool specimens were collected from rural communities of Ubon Ratchathani Province, Thailand and examined by two techniques: the modified Kato thick smear and the direct smear. The prevalence of *Opisthorchis viverrini* (14.8%), hookworm (10.2%), *Sarcocystis* spp (4.6%), *Taenia* spp (2.9%), *Strongyloides stercoralis* (2.1%), *Giardia lamblia* (1.2%), *Echinostoma* spp (0.6%), *Ascaris lumbricoides* (0.4%), *Entamoeba histolytica* (0.2%), *Chilomastix mesnili* (0.2%) and *Endolimax nana* (0.2%) were determined. The morphology of the *Sarcocystis* spp sporocysts examined by both procedures looked similar and was found to be easily recognizable. Among these specimens, 22 cases (4.6%) were positive for *Sarcocystis* infection detected by the modified Kato technique, whereas only one case (0.2%) was detected by both techniques. These differences were found to be statistically significant ( $p < 0.05$ ), indicating that the modified Kato technique was decidedly more sensitive than the direct smear procedure in identifying *Sarcocystis* infection. An epidemiological survey was conducted in Khon Kaen Province involving 1,124 stool samples using the modified Kato technique. The greatest frequency was *Opisthorchis viverrini* at 32.0% while the second highest was *Sarcocystis* spp at 8.0%. The prevalences of hookworm, *Echinostoma* spp, *Taenia* spp, *Trichuris trichiura* and *Enterobius vermicularis* were 2.7, 2.1, 1.0, 0.2 and 0.2%, respectively. Other than opisthorchiasis, northeastern Thailand may be an endemic area for sarcocystosis. This is the first report of the applicability and potential usefulness of the Kato thick smear technique for the diagnosis of *Sarcocystis* infection in a field survey.

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